CLAIMS

We claim

1. A photosensitizer carrier composition comprising

(a) one or more photosensitizer and

(b) one or more block copolymer in liquid form capable of forming a complex with said photosensitizer and wherein said copolymer is i) not an amphiphilic polymer of polystyrene sodium sulphonate and vinyl naphthalene, and ii) not poloxamer 188.

2. A method for formulating a photosensitizer carrier composition of claim 1 comprising combining one or more photosensitizer and one or more block copolymer in solution, wherein said copolymer is i) not an amphiphilic polymer of polystyrene sodium sulphonate and vinyl naphthalene, and ii) not poloxamer 188.

3. The method of claim 2 further comprising the step of optionally drying said photosensitizer and copolymer combination.

4. A method for formulating a photosensitizer carrier composition according to claim 1 comprising combining one or more photosensitizer and one or more block copolymer wherein said copolymer is in a liquefied state, said photosensitizer is soluble in said copolymer, and said copolymer is i) not an amphiphilic polymer of polystyrene sodium sulphonate and vinyl naphthalene, and ii) not poloxamer 188.

5. The method of claim 3 further comprising the step of optionally hydrating said photosensitizer and copolymer combination to form a complex.

6. A method for conducting photodynamic therapy comprising:

(a) administering a photosensitizer and copolymer complex produced by hydration of the composition of claim 1 to a subject in need of photodynamic therapy; and

(b) irradiating said subject to activate said photosensitizer; wherein said copolymer is i) not an amphiphilic polymer of polystyrene sodium sulphonate and vinyl naphthalene, and ii) not poloxamer 188.

7. The composition of claim 1, wherein said complex is selected from the group consisting of micelles, emulsions, gels, matrix or transition phases between the preceding defined states..

8. The composition of claim 1, wherein said block copolymer comprises polyoxyethylene and polyoxypropylene; polytetrahydrofuran; or polyaspartic acid.

9. The composition of claim 8, wherein said polyoxyethylene-polyoxypropylene block copolymer is selected from the group consisting of poloxamer 403 (P123), poloxamer 407 (F127), poloxamer 402 (L122), poloxamer 181 (L61), poloxamer 401 (L121), poloxamer 185 (P65), and poloxamer 338 (F108).

10. The composition of claim 1, wherein said photosensitizer is selected from the group consisting of porphyrins, pyrroles, tetrapyrrolic compounds, expanded pyrrolic macrocycles and their derivatives.

11. The composition of claim 10, wherein said porphyrin derivative is selected from the group consisting of green porphyrins, tetrahydrochlorins, pyrophenophorphides, purpurins, texaphyrins, phenothiaziniums, phthalocyanines, napthalocyanines, porphycenes and pheophorbides.

12. The composition of claim 11, wherein said tetrahydrochlorins are selected from the group consisting of chlorins, hydroxychlorins, bacteriochlorins, and isobacteriochlorins.

13. The composition of claim 12, wherein said green porphyrin is selected a benzoporphyrin derivative (BPD).

14. The composition of claim 13, wherein said BPD is selected from the group consisting of BPD-MA, BPD-MB, A-EA6, B-EA6, A-B3 and B-B3.

15. The method of claim 5 wherein said combining step further comprises a hydratable solid support on which said photosensitizer and block copolymer combination may deposit.

16. The method of claim 15, wherein said solid support is not capable of dissolving in said liquefied copolymer.

17. The method of claim 15, wherein said solid support is capable of dissolving in said optional hydrating step.

18. A photosensitizer carrier composition comprising a photosensitizer, poloxamer 188 (F68) and an emulsion forming agent, wherein said agent is not a fluorocarbon selected from the group consisting of FC43, PP11, and PP25.

19. The composition of claim 18 wherein said agent is not a fluorocarbon.

20. A method for conducting photodynamic therapy comprising administering a photosensitizer and copolymer complex produced by hydration of the composition of claim 18 to a subject in need of photodynamic therapy; and irradiating said subject to activate said photosensitizer.